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IMPACT ON AGRONOMIC PARAMETERS IN VINES AND WINE QUALITY OF FOLIAR TREATMENTS WITH SPECIFIC FRACTIONS OF YEAST DERIVATIVES

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ABSTRACT

In hot Spanish climate, Toledo, Syrah and Sauvignon blanc Vineyard were treated in pre veraison with yeast derivatives RD-LM and RD- LA to stimulate phenolic and aromatic maturity respectively (application of yeast derivatives specifically designed to be used with the patent foliar application technology WO/2014/024039, Lallemand Inc. Canada). For studied effects in berry and wine composition three harvest time had been done. Experimented yeast derivatives had no significant effects on yield components and vegetative growth in both varieties. The Syrah RD-LM variety presented higher total and extractable anthocyanins and also more amount of tannins, although this last ones are not evident in the sensory analysis. The sensory analysis of wine has given very similar results in both varieties but with significant results in favored by phenols and tannins derived RD- LM and RD-LA respectively.

INTRODUCTION AND AIMS

The use of derivatives of yeast has been limited on winemaking. In this work we have experimented during 2013 by the application of two yeast derivatives products in the vineyard: RD-LM which aims to stimulate phenolic ripeness in red grapes varieties; RD-LA aims to stimulate aromatic precursors in white grapes varieties and in both cases verify its influence on the agronomic responses in the vineyard: Yield, vegetative growth ....

THE VINEYARD:

Toledo (Spain) González Byass 500 m amsl

- Sandy, Clay Loan, 384 mm (2013)
- **Syrah** (470) / 1103 – P and **Sauvignon blanc** (700) / 110 R.
- Planted in 2002. 2,4 x 1,2
- Vine spacing, N.S. Orientated rows
- VSD, Bilateral Cordon, 8 spurs pruned

THE EXPEREIMETAL DESIGN

- EXPERIMENT 1: SYRAH
  - Control and treatment RD-LM in pre veraison
- EXPERIMENT 2: SAUVIGNON BLANC
  - Control and treatment RD-LA in pre veraison
- Four replicates, 20 vines per plot.
- 3 harvest times . Data collection 2013 and microvinification
- Analysis of variance: Ns, *, **. not significant, $P \leq 0.05$, $P \leq 0.01$.

Sauvignon Blanc

	Yield (kg/m^2)	Shoot wt. (kg/m^2)	Cluster wt. (g)	Berry wt. (g)	pH	ºBRIX
Control	1,222	0,169	75,39	0,834	3,59	22,78
RD-LA	1,188	0,147	75,99	0,82	3,57	23,13
sig.	ns	*	ns	ns	ns	ns

RESULTS AND DISCUSSION

The content of extractable anthocyanins and tannins of Syrah variety has increased significantly by the application of yeast derivatives. As well the high effect of the treatment has been observed depending on the harvest date. The results of the application of yeast derivatives showed to depend on the harvest time which shows differences too.

Sensory analysis of wine by triangular test showed significant differences of 1% and 5% respectively in Syrah (75% right guess) and Sauvignon Blanc (65% right guess).

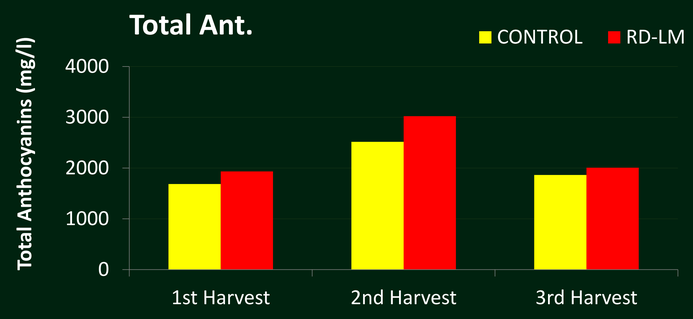
Generally, the wines from Sauvignon Blanc vine treated by LA, has shown positive effects of the aromatic expression of sensory analysis in nose and mouth especially in the third harvest time.

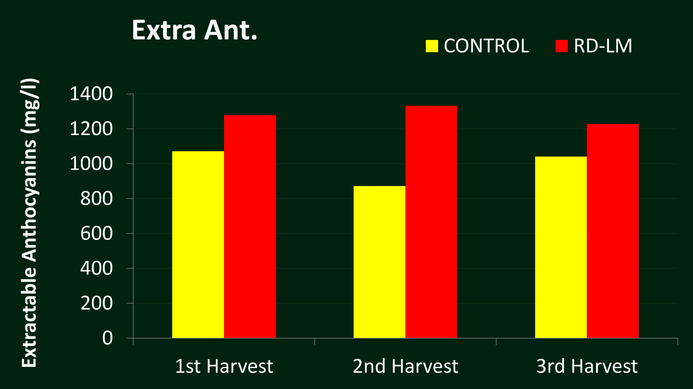
No differences in yield components and vegetative growth were found in neither of the varieties as expected.

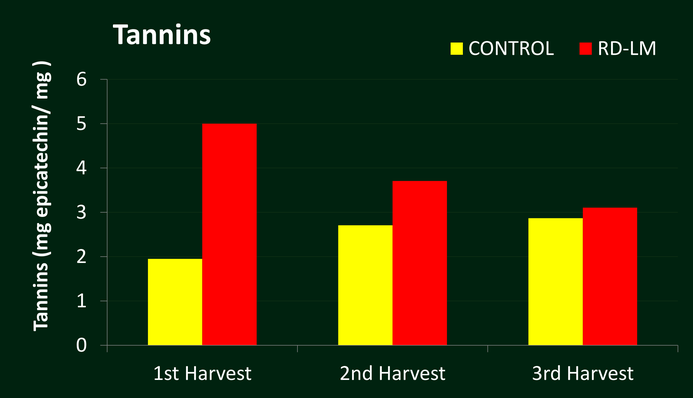
The Interesting results obtained in 2013 invite to continue on this research.

Syrah

	Yield (kg/m^2)	Cluster wt. (g)	Berry wt. (g)	Shoot wt. (kg/m^2)	pH	ºBRIX
Control	1,23	96,06	1,024	0,204	3,57	24,55
RD-LM	1,17	94,45	0,988	0,254	3,54	24,82
sig.	**ns**	**ns**	**ns**	**ns**	*	**ns**







SIGNIFICANCE	Total Anthocyanins	Extractable Anthocyanins	Tannins
Harvest x Application	***	***	***
Harvest	*	***	ns
Application	ns	*	***

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